

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [65 FR 47248 8/2/2000]

[Docket No. 99-NE-40-AD; Amendment 39-11830; AD 2000-15-01]

RIN 2120-AA64

Airworthiness Directives; CFM International CFM56-2, -2A, -2B, -3, -3B, -3C, -5, -5A, -5B, -5C Series Turbofan Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to CFM International (CFMI) CFM56-2, -2A, -2B, -3, -3B, -3C, -5, -5A, -5B, -5C series turbofan engines, that requires initial and repetitive visual inspections of the fuel pump filter cover helicoil inserts and bolts for damage, and, if necessary, repair or replacement with serviceable parts. This amendment also requires the installation of new or reworked fuel pumps that incorporate an improved filter cover retention design (D-bolts), or an on-wing repair of existing fuel pumps, as terminating action to the inspections. This amendment is prompted by reports that fuel pump filter cover helicoil inserts have loosened or pulled out. The actions specified by this AD are intended to prevent fuel leakage from between the fuel pump filter cover and gear housing, which could result in an engine fire and damage to the airplane.

DATES: Effective date October 2, 2000. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as October 2, 2000.

ADDRESSES: The service information referenced in this AD may be obtained from CFM International, Technical Publications Department, 1 Neumann Way, Cincinnati, OH 45215; telephone: (513) 552-2800, fax: (513) 552-2816. This information may be examined at the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: James Rosa, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone: (781) 238-7152, fax: (781) 238-7199.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to CFM International (CFMI) CFM56-2, -2A, -2B, -3, -3B, -3C, -5, -5A, -5B, -5C series turbofan engines was published in the **Federal Register** on January 24, 2000. That action proposed to require initial and repetitive visual inspections of the fuel pump filter cover helicoil inserts and bolts for damage, and, if necessary, repair or replacement with serviceable parts. That action also proposed to require the installation of new fuel pumps that incorporate an improved filter cover retention design (D-bolts) as terminating action to the inspections.

Comments Received

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

On-Wing Gearbox Replacement

One comment requests that the requirement for on-wing gearbox replacements be removed from the terminating action since the fuel pump is routinely reinstalled and does not receive a shop visit. The comment also suggests that the fuel pump modification should be required at fuel pump shop visit only.

The FAA agrees in part. The FAA agrees that it is not necessary to replace the fuel pump at on-wing gearbox replacement. However, the FAA does not agree that modification of the fuel pump should only be accomplished at fuel pump shop visit. The FAA believes fuel pump modifications should be accomplished at engine shop visit. The terminating action at on-wing gearbox replacement will be removed and the final rule revised accordingly. For clarity, the following definitions will also be added: A fuel pump shop visit is defined as introduction of an engine into a shop for the purpose of removal of the fuel pump from the gearbox. An engine shop visit is defined as introduction of an engine into a shop for the purpose of maintenance or inspection.

Credit for Previous Inspections

Eight comments request that credit be given to operators who have performed initial inspections per the applicable service bulletins (SBs) or aircraft maintenance manuals. One comment requests a wording change so that operators will not have to repeat the initial inspection.

The FAA agrees. This final rule has been revised accordingly.

Terminating Action

One comment expresses concern that the fuel pump manufacturer and repair vendor will not be able to support the five-year compliance schedule. Another comment requests an extension of the terminating action date. Two comments request elimination of a five-year terminating action requirement because there will be insufficient time to remove the fuel pumps on an attrition basis, and this requirement will disrupt planned component removal schedules.

The FAA does not agree. The engine manufacturer has informed the FAA that the fuel pump vendor should be able to support this five-year compliance schedule. The FAA has revised the final rule in response to another comment to allow an on-wing repair as a terminating action, which should help to minimize disruption in current maintenance schedules.

One comment requests that terminating action be mandated at the next shop visit or 6,000 hours because five years is too long.

The FAA agrees in part. Terminating action will be required at the next shop visit, however the FAA has determined that the terminating action date in this AD provides an adequate level of safety and allows operators time to properly schedule the required activity.

On-Wing Repair

Four comments request that an on-wing repair referenced in the inspection SBs be allowed as terminating action.

The FAA agrees. The FAA will revise the final rule to allow the on-wing repair as terminating action.

Military Operators

One comment requests that military CFM56-2B operators not be required to perform periodic inspections since they already inspect fuel filters every 60 hours.

The FAA does not agree. The FAA has a responsibility to manage the CFM56-2B type certificate. Military operators have the option to determine if incorporation of this Part 39 amendment is appropriate for them.

Undue Burden

One comment requests that the requirement to reinspect the fuel filter cover assembly after every fuel filter change be removed since the inspection is already performed in accordance with the B737-300/-500 Aircraft Maintenance Manual, which is part of their FAA approved maintenance program. The comment also suggests that the documentation will create an undue burden.

The FAA does not agree. The FAA has determined that although performing the inspections in accordance with the B737-300/-500 Aircraft Maintenance Manual may be prudent, it is not a requirement. This AD will mandate the inspection for all operators. The FAA does not consider the required documentation to be an undue burden.

Initial Inspection Interval

Two comments request that the initial inspection be changed from 200 to 300 cycles or 600 hours. Another comment states that preflight walk-around inspections will spot fuel leaks.

The FAA does not agree. The FAA has determined that the initial inspection needs to be performed in a timely manner to detect damaged helicoil inserts and prevent additional fuel leaks. The FAA has also determined that this type of fuel leak may not be consistently detected by a preflight walk-around.

Inspection on Both Engines

One comment suggests that a provision be included in the AD to not inspect all fuel pumps of an airplane during the same maintenance session.

The FAA agrees. This final rule prohibits servicing, replacement, and inspection on all engines of an airplane at one time by the same individual.

Unnecessary Corrective Action

One comment suggests that the AD is unnecessary because the inspections are already being carried out voluntarily.

The FAA does not agree. The FAA has determined that an unsafe condition has been discovered that could cause substantial fuel loss and pose a fire hazard and that it is necessary to mandate action to correct the problem.

CFM56-7B Model

One comment questions if the CFM56-7B model should be included.

The FAA does not agree. The FAA has determined that it is unnecessary to include the CFM56-7B because its configuration is not similar to the design associated with the unsafe condition.

New vs. Reworked Fuel Pumps

One comment requests that wording be added to the AD to indicate that there will be two groups of fuel pumps with D-bolts, reworked and newly made. Another comment requests that the definition of serviceable part be changed to include new fuel pumps.

The FAA agrees. This final rule indicates that both reworked and newly made fuel pumps are serviceable parts.

Adoption of the Rule as Proposed

One comment supports the adoption of the rule as proposed.

Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Economic Impact

No comments were received on the economic analysis contained in the proposed rules.

Regulatory Impact

This rule does not have federalism implications, as defined in Executive Order 13132, because it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Accordingly, the FAA has not consulted with state authorities prior to publication of this rule.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption "ADDRESSES."

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE



REGULATORY SUPPORT DIVISION
P.O. BOX 26460
OKLAHOMA CITY, OKLAHOMA 73125-0460

U.S. Department
of Transportation
**Federal Aviation
Administration**

AD's are posted on the internet at <http://av-info.faa.gov>

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2000-15-01 CFM International: Amendment 39-11830. Docket 99-NE-40-AD.

Applicability

CFM International CFM56-2, -2A, -2B, -3, -3B, -3C, -5, -5A, -5B, -5C series engines installed on but not limited to McDonnell Douglas DC-8 series, Boeing 737 series, Airbus Industrie A319, A320, A321 and A340 series, as well as Boeing E-3, E-6, and KC-135 (military) series airplanes.

Note 1: This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (f) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance

Required as indicated, unless accomplished previously.

To prevent fuel leakage from between the fuel pump filter cover and gear housing which could result in an engine fire and damage to the airplane, accomplish the following:

Inspections

(a) Perform initial and repetitive visual inspections of the fuel pump filter cover helicoil inserts and bolts for damage in accordance with Section 2, Accomplishment Instructions, of the applicable Service Bulletins (SBs) listed in paragraph (a)(5) of this AD, as follows:

(1) If the fuel pump has **not** been previously inspected prior to the effective date of this AD, inspect at the next fuel filter replacement, but not to exceed 200 cycles-in-service (CIS) after the effective date of this AD.

(2) If the fuel pump has been previously inspected prior to the effective date of this AD, inspect at the next fuel filter replacement.

(3) Thereafter, inspect at each fuel filter replacement.

Replacement or Repair

(4) If damage equals or exceeds the reject criteria stated in Section 2, Accomplishment Instructions, of the SBs listed in paragraph (a)(5) of this AD, prior to further flight remove the fuel pump from service and replace or repair the helicoil in accordance with Section 2, Accomplishment Instructions, of the SBs listed in paragraph (a)(5), (b) or (c) as applicable, of this AD.

Applicable Inspection SB

(5) Inspect and replace, if necessary, in accordance with the CFMI SB that applies to your engine from the following list:

CFM56-2 SB 73-110,	Revision 2,	dated April 29, 1999.
CFM56-2A SB 73-055,	Revision 1,	dated April 29, 1999.
CFM56-2B SB 73-076,	Revision 1,	dated April 29, 1999.
CFM56-3/3B/3C SB 73-126,	Revision 1,	dated April 29, 1999.
CFM56-5 SB 73-136,	Revision 2,	dated April 29, 1999.
CFM56-5B SB 73-056,	Revision 2,	dated April 29, 1999.
CFM56-5C SB 73-073,	Revision 2,	dated April 29, 1999.

Terminating Action

(b) Remove and replace the fuel pump with a newly manufactured or reworked fuel pump that incorporates a D-bolt filter cover attachment. This action must be done at the next engine or fuel pump shop visit, which ever occurs first, but no later than 5 years from the effective date of this AD in accordance with the CFMI SB that applies to your engine from the following list:

CFM56-2 SB 73-A113,		dated August 17, 1999.
CFM56-2A SB 73-A058,		dated August 17, 1999.
CFM56-2B SB 73-A079,	Revision 1,	dated October 22, 1999.
CFM56-3/3B/3C SB 73-A129,		dated August 17, 1999.
CFM56-5 SB 73-A143,		dated June 18, 1999.
CFM56-5B SB 73-A062,		dated June 18, 1999.
CFM56-5C SB 73-A078,		dated June 21, 1999.

Installation of a new or reworked fuel pump that incorporates a D-bolt filter cover attachment in accordance with this paragraph constitutes terminating action to the inspections required by paragraph (a) of this AD.

(c) An alternative terminating action is an on-wing repair that may be performed. Terminating action must be accomplished no later than 5 years from the effective date of this AD, in accordance with one of the following CFMI SB's that applies to your engine:

CFM56-2 SB 73-109,	Revision 1,	dated January 7, 1998.
CFM56-2A SB 73-054,	Revision 1,	dated January 7, 1998.
CFM56-2B SB 73-074,	Revision 1,	dated January 12, 1998.
CFM56-3/3B/3C SB 73-125,	Revision 1,	dated January 7, 1998.
CFM56-5 SB 73-135,	Revision 1,	dated January 7, 1998.
CFM56-5B SB 73-055,	Revision 1,	dated January 7, 1998.
CFM56-5C SB 73-070,	Revision 1,	dated January 7, 1998.

Prohibited Inspection or Replacement

(d) Inspection, replacement or repair of fuel pumps, in accordance with paragraph (a), (b) or (c) of this AD, on all engines installed on the same airplane by the same individual prior to the same flight is prohibited.

Definitions

(e) For the purpose of this AD:

(1) A serviceable part is defined as a part with gear housing helicoil inserts that meet the inspection requirements of the applicable CFMI SBs listed in paragraph (a)(5) of this AD. A serviceable part is also defined as a fuel pump that has been newly manufactured, reworked or repaired in accordance with the applicable CFMI SBs listed in paragraphs (a)(5), (b) or (c) of this AD.

(2) A fuel pump shop visit is defined as introduction of an engine into a shop for the purpose of removal of the fuel pump from the gearbox.

(3) An engine shop visit is defined as introduction of an engine into a shop for the purpose of maintenance or inspection.

Alternative Methods of Compliance

(f) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office (ECO). Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, ECO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the ECO.

Ferry Flights

(g) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be accomplished.

Incorporation By Reference Material

(h) The FAA has reviewed and approved the technical content of the listed CFMI Service Bulletins (SBs). The actions required by this AD shall be done in accordance with the following CFMI SBs:

Document No.	Pages	Revision	Date
CFM56-2 SB No. 73-110..... Total pages: 10.	1-10	2	April 29, 1999
CFM56-2A SB No. 73-055..... Total pages: 10.	1-10	1	April 29, 1999
CFM56-2B SB No. 73-076..... Total pages: 10.	1-10	1	April 29, 1999
CFM56-3/3B/3C SB No. 73-126..... Total pages: 10.	1-10	1	April 29, 1999
CFM56-5 SB No. 73-136..... Total pages: 10.	1-10	2	April 29, 1999
CFM56-5B SB No. 73-056..... Total pages: 10.	1-10	2	April 29, 1999
CFM56-5C SB No. 73-073..... Total pages: 10.	1-10	2	April 29, 1999
CFM56-2 SB No. 73-A113..... 708600-73-113..... Total pages: 27.	1-6 1-21	Original Original	August 17, 1999 May 24, 1999
CFM56-2A SB No. 73-A058..... 708400-73-101..... Total pages: 17.	1-3 1-14	Original Original	August 17, 1999 April 16, 1999
CFM56-2B SB No. 73-A079..... 708600-73-112..... Total pages: 23.	1-4 1-19	1 Original	October 22, 1999 April 14, 1999
CFM56-3/3B/3C SB No. 73-A129..... 708600-73-110..... Total pages: 23.	1-4 1-19	Original Original	August 17, 1999 April 14, 1999
CFM56-5 SB No. 73-A143..... 714900-73-106..... Total pages: 18.	1-4 1-14	Original Original	June 18, 1999 April 9, 1999
CFM56-5B SB No. 73-A062..... 714900-73-107..... Total pages: 19.	1-4 1-15	Original Original	June 18, 1999 April 13, 1999
CFM56-5C SB No. 73-A078..... 714900-73-108..... Total pages: 19.	1-4 1-15	Original Original	June 21, 1999 April 13, 1999

Document No.	Pages	Revision	Date
CFM56-2 SB No. 73-109..... Total pages: 13.	1-13	1	January 7, 1998
CFM56-2A SB No. 73-054..... Total pages: 13.	1-13	1	January 7, 1998
CFM56-2B SB No. 73-074..... Total pages: 13.	1-13	1	January 12, 1998
CFM56-3/3B/3C SB No. 73-125..... Total pages: 13.	1-13	1	January 7, 1998
CFM56-5 SB No. 73-135..... Total pages: 13.	1-13	1	January 7, 1998
CFM56-5B SB No. 73-055..... Total pages: 13.	1-13	1	January 7, 1998
CFM56-5C SB No. 73-070..... Total pages: 13.	1-13	1	January 7, 1998

The incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552 (a) and 1 CFR part 51. Copies may be obtained from CFM International, Technical Publications Department, 1 Neumann Way, Cincinnati, OH 45215; telephone: (513) 552-2800, fax: (513) 552-2816. Copies may be inspected at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA 01803-5299; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

- (i) This amendment becomes effective on October 2, 2000.

FOR FURTHER INFORMATION CONTACT: James Rosa, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone: (781) 238-7152, fax: (781) 238-7199.

Issued in Burlington, Massachusetts, on July 14, 2000.

David A. Downey, Assistant Manager, Engine and Propeller Directorate, Aircraft Certification Service